Amendments to the Abstract:

Please substitute the following version of the Abstract, with changes shown by strikethrough (for deletion) or underlining (for added matter)

ABSTRACT OF THE DISCLOSURE

~~A method for the manufacture of a thermally insulating layer system on a metallic substrate or base body, wherein the layer system includes at least one anisotropically structured thermally insulating layer having elongate particles is disclosed. In accordance with the method the thermally insulating layer is applied by an LPPS thin film process in which a coating material in the form of a powder stream is sprayed onto a surface of a metallic substrate, with the coating material containing oxide ceramic components, being injected at a low process pressure which is in the range between 50 and 2000 Pa by means of a feed gas into a plasma which defocuses the powder stream and being partly or completely melted there, with a plasma with an adequately high specific enthalpy being generated, with the process gas for the generation of the plasma being a mixture of inert gases with a total gas flow in the range from 30 to 150 SPLM and with the specific enthalpy of the plasma being generated by the output of an effective power which lies in the range from 40 to 80 kW and can be empirically determined so that a substantial proportion of the coating material amounting to at least 5 % by weight passes into the vapor phase and an anisotropically structured thermally insulating layer arises on the substrate, wherein elongate particles in this thermally insulating layer, which form an anisotropic microstructure are aligned substantially perpendicular to the substrate surface and transition regions with little material delimit the particles relative to one another.~~

A method of forming a thermally insulating layer system on a metallic substrate surface is disclosed. The method includes: forming a plasma beam; introducing a coating material in the form of a powder having particles in the range between 1 and 50 μm, carried by a delivery gas into the plasma beam, so as to form a powder beam; defocusing the powder beam by using the plasma beam with a sufficiently high specific enthalpy and by maintaining a process pressure between 50 and 2000 Pa for at least partially melting and vaporizing at least 5% by weight of the

powder, so as to form a vapor phase cloud; and forming from the vapor phase cloud onto the metallic substrate surface an insulating layer, being a part of the insulating layer system, having an anisotropic columnar microstructure having elongate particles; wherein the anisotropic columnar microstructure is aligned substantially perpendicular to the metallic substrate surface and low-density transition regions with little material delimit the elongate particles relative to one another.